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ABSTRACT

A study was conducted to determine whether the Stallings Effective Teaching Practices inservice training program contributed to improved teacher performance in the Cincinnati, Ohio, Public Schools. The study had two major objectives: (1) to assess the degree of improvement in selected teacher practices after training; and (2) to investigate the post-training performance of the teachers who showed the greatest need for improvement on the selected variables. The research context for the study is presented. It reviews the work of investigators who have examined the correlation between teaching practices and classroom variables related to increased student achievement. A description of the training program outlines its intention, method, and emphases. Also described are the general training conditions, the observation system, the selection of variables, and the methods of analysis. Reported findings of the study indicate that: (1) the average teacher performance improved slightly for all teachers on twenty-five of thirty-one variables; (2) statistically significant improvement was noted for all teachers on nine variables; and (3) on the average, teachers with the greatest need showed improvement across all selected variables, and statistically significant improvement on eighteen of twenty-eight variables. The report concludes with recommendations for further research efforts. (APM)

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IMPROVED TEACHING IN URBAN CLASSROOMS: APPLYING MORE PRECISE AND DEMANDING STANDARDS

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IMPROVED TEACHING IN URBAN CLASSROOMS:
APPLYING MORE PRECISE AND DEMANDING STANDARDS

In 1979-80, the Cincinnati Public Schools pilot-tested the JDRP* approved inservice training program developed by Dr. Jane Stallings of SRI, International. This training process focused on classroom organization, behavior management and "direct instruction" techniques in basic skills classes. In the workshops, teachers reviewed specific recommendations for improvement, based on research about teaching practices effective with low and medium-skilled urban youth. After this review, they set personal targets for improvement, based on the expectations communicated in the training program. Through observation before and after training, teachers could identify their current level of use of various instructional practices recommended by research. Pre and post observations also permitted assessment of teacher change after training to see if teachers had acted on the research recommendations and improved their performance.

The Stallings Effective Teaching Practices training program was chosen for pilot-testing in Cincinnati on the basis of its experimental track record of significant teacher improvement and accelerated student gains in urban schools. The present study will analyze whether the training program contributed to improved teacher performance in urban classrooms when it was implemented in a large public school system and revised by a second generation of inservice leaders. In particular, two objectives will be examined in this study:

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* The Joint Dissemination Review Panel evaluates promising programs for inclusion in the National Dissemination Network.

a) to determine the degree of improvement in selected teacher practices after training;

b) to investigate the post-training performance of the teachers who showed the greatest need for improvement on the selected variables.

The paper will be divided into five parts: 1) The Research Context; 2) Description of the Training Program; 3) Data Sources and Methods; 4) Results and Interpretations; 5) Recommendations for Further Research.

The Research Context

During the last decade, process-product studies have identified with some statistical confidence specific teaching practices and classroom variables related to increased student achievement for low and medium skilled urban youth. The consistency of findings across investigators has permitted steady progress from correlational studies, to field experiments, to dissemination of successful training models. In this section, a brief overview of this line of research will be presented, with particular reference to the developmental work that contributed to the teacher training program under study.

First, large scale correlational studies were conducted at the elementary level (Stallings and Kaskowitz, 1974; Soar and Soar, 1972; McDonald and Elias, 1976; Brophy and Evertson, 1976; Good and Grouws, 1977) to examine the actual processes that took place within classrooms and to estimate their influence upon student outcomes. The data from these studies provided relatively dependable knowledge about relationships between teacher behavior and student learning of basic skills in the elementary grades. For example, one of the most useful variables to emerge from the research on

teaching during the 1970s was student time on task, which could be increased by allocating more time to basic skills instruction and by organizing the classroom to ensure that students participated continuously and successfully in instructional activities found to be correlated with achievement.

Several investigators conducted similar studies on the secondary level (Stallings, Needels and Staybrook, 1979; McConnell, 1977; Anderson, Evertson and Brophy, 1978). The secondary findings generally supported the "direct instruction" model of teaching (Rosenshine, 1979) found to be effective at the elementary level, particularly to the extent that basic skills mastery by low and medium skilled students was the primary goal (Brophy, 1979). In the secondary level studies, the analysis of the time-on-task variable was also extended, for example, by separating on-task instructional activities into interactive activities (like reading aloud, discussion/review, drill and practice which were positively correlated with reading gains) and non-interactive activities (like silent reading and written assignments that were negatively correlated with reading gains) (Stallings, 1980).

As knowledge about the instructional practices used by effective teachers mounted, field experiments were conducted, using the findings from earlier correlational work as the basis for inservice training (Anderson, Evertson and Brophy, 1979; Good and Grouws, 1979; Stallings and Hentzell, 1978). Each of these training programs produced statistically significant change in key teaching practices by treatment teachers. The results also favored treatment teachers over control teachers in producing student learning gains on standardized achievement tests.

Thus, results from these quasi-experiments supported previous correlational work and provided stronger evidence of a possible casual linkage between specific classroom variables and student learning.

The present study is a direct outgrowth of the correlational and experimental work of Jane Stallings, Margaret Needles and their colleagues. Stallings et al. identified four phases to their research. In Phase I, Correlational Research, they observed 46 secondary reading classrooms in urban districts to examine the relationship between teacher behavior and student reading gains. The results of this study provided specific guidelines for efficient instruction that were used in Phase II, Experimental Inservice Training. One-half of the Phase II teachers were trained and the other half were in a control group that did not receive training until the end of the quasi-experiment. The treatment teachers changed behaviors in recommended ways, and their students made more reading gain than did students in the control group. In Phase III, Extended Teacher Training, Stallings monitored previously trained teachers as these teachers led similar inservice workshops in their own districts. In Phase IV, Dissemination Training, she prepared apprentices to return to their districts and function as trainers of classroom observers and as workshop leaders. Since one of the authors participated in Phase IV of this research, the current study offers an opportunity to critically analyze the effectiveness of a nationally recognized inservice model under practical dissemination conditions.

Description of the Training Program

The purpose of the training workshops was to familiarize teachers with research recommendations related to teaching basic skills to students of

varying skill levels. The workshops were also designed as supportive, problem-solving sessions where teachers identified individual needs and attempted to improve their own teaching performance on specific, observable variables. If successful, the workshops provided teachers with an opportunity to define a more precise and demanding set of personal standards for their own teaching.

There were five, two-hour workshops held on a weekly basis after school for small groups of five to seven teachers. In Workshop I, teachers analyzed a report of Stallings' study, "Teaching Basic Reading Skills in Secondary Schools." In this report, the practices of teachers effective with low, medium and high skilled students were summarized. In Workshop II, the teachers received a profile of their own teaching practices, based on three days' observation of the same class period. The variables reported on the individual profile were the same that were studied in Stallings' research, so that teachers could compare their own level of performance to that of teachers who were effective with students of similar skill levels. As a result, teachers selected a limited number of teaching behaviors they intended to alter.

The remainder of the training focused on identifying, practicing and revising strategies for making these changes in teacher practice. In Workshop III, teachers discussed and learned to implement methods of classroom organization designed to increase student time-on-task. In Workshop IV, teachers analyzed preventive and motivational techniques for managing student behavior. In Workshop V, teachers reviewed techniques of direct instruction found to be effective with poor readers. One to two months after

the workshops, teachers were re-observed for three days in the same class. Afterwards, they convened for a follow-up workshop in which they received and discussed a new individual profile. In short, the workshop series was a self-improvement process for teachers based on research-derived recommendations and an objective summary of an individual's teaching techniques.

Data Source and Methods

The primary data source for the present study are the results of pre and post observations of twenty-five teachers who completed the training. In this section, we will describe the general training conditions, the observation system, the selection of variables, and the methods of analysis.

Training Conditions

Six ways that Cincinnati's training conditions diverged from the Stallings model should be noted. While it should be expected that a model will be implemented in different ways, the divergences necessarily affect the comparability of results between two versions of the same model.

First, the Cincinnati Public School district is larger than any district in SRI's Phase II studies, with a higher percentage of low-income and Black students. Second, the Cincinnati teachers trained were from schools that were among the weakest of district schools in achievement, attendance and student conduct measures. (It is unknown whether this was true of classrooms in the SRI sample.) Third, while SRI's training focused on secondary reading teachers, 40% of the teachers trained in Cincinnati taught at the elementary level. Fourth, Cincinnati teachers were from a broad cross-section of subject matter disciplines, including the arts and EMR instruction. Fifth, the focus of this study was on changing teacher

behavior. No appropriate student achievement data were available or collected for this broad range of subjects; no control group of teachers was observed. Instead, the relation of the selected teaching variables to student achievement was assumed based on previous research. Sixth, where SRI teachers were all volunteers, Cincinnati teachers were recruited from two groups: those who volunteered after a brief presentation to a school staff meeting; and, those who were nominated by assistant principals, discipline personnel and department heads as needing assistance with classroom organization and behavior management. These six divergent conditions represent typical ways experimentally developed training programs would be altered when implemented in inner-city settings. In part, the significance of the present study derives from the evidence of teacher improvement despite these divergences.

Observation System

The observation system used in this study was initially developed at SRI, International in response to a 1969 request by the U.S. Office of Education to evaluate the implementation of educational models in the Follow Through program. This system has been modified through time and adapted to the secondary level. In Cincinnati, observers were trained for seven days, using the training program developed by SRI. At the completion of training, to help decide whether the observers were competent to collect data, observers took a criterion videotape test for which an 85% reliability rating on each code was used as the standard for mastery. Further, cross-validity checks between the two parts of the observation system helped establish the validity of the instruments. In general, observation results

have been widely accepted by teachers as accurate throughout the entire history of this instrument.

After being selected for the program, teachers were observed during the same class period on three consecutive days. Every ten minutes, the groupings, activities and materials in use in the classroom were recorded on the Snapshot instrument. A total of fifteen such observations were recorded for each teacher. After each Snapshot, the verbal interactions of teachers and students were coded continuously for five minutes. The verbal interactions were thus recorded for twenty-five minutes in each of the three observation periods. In sum, a total of fifteen classroom "Snapshots" and approximately 900 verbal interactions were used to summarize teacher behavior before and after training.

Variable Selection

To select the teacher behaviors of priority interest, three steps were followed. First, twenty general classroom variables found by research to be significantly correlated with basic skills achievement were identified. Second, a survey containing these priorities was sent to 70 educators in the Cincinnati Public Schools, including Cabinet members, Directors, Program Evaluators, Planning and Development specialists, Language, Arts and Mathematics supervisors, Title I and DPPF leadership, fifteen principals of inner-city schools and ten teachers. Respondents were asked to prioritize the ten variables they would most like to see basic skills teachers change as a result of inservice training.

Returns from 35 respondents indicated that five educational priorities were rated as the most important outcomes of inservice training for basic skills instruction:

1) an increase in the amount of positively supportive corrective feedback motivating students who are struggling to learn (Corrective Feedback);

2) an increase in student learning time devoted to recommended instructional activities (Instructional Time on Task);

3) a decrease in teacher/student interactions related to discipline or misbehavior (Discipline);

4) a decrease in instructional time spent by teachers and students on classroom management tasks or school-related clerical work (Classroom Management);

5) an increase in the amount of instruction given to small groups, large groups or the total class (Group and Class Instruction).

Third, specific observation variables reported on the teacher's profile were selected to specify each educational priority. Table 1 reports the thirty-one classroom variables which were used to assess teacher change after training.

Table 1

FIVE EDUCATIONAL PRIORITIES AND RELATED CLASSROOM VARIABLES

CORRECTIVE FEEDBACK	INSTRUCTIONAL TIME ON TASK	DISCIPLINE
Acknowledgement of Correct Answers	Student Reading Aloud	Time on Social Interaction
Praise and Support	Time Reading Aloud	Students Uninvolved
Probing Questions	Time on Instruction	All Interactions, Behavior
Providing Hints	Subject Matter Instruction	Negative Interactions
All Corrective Feedback	All Interactions, Subject	Social Comments
Positive Interactions	Written Assignments	Teacher Monitoring Movement
Student Doesn't Know, Adult Probes	Practice Drill	
	Test Taking	

CLASSROOM MANAGEMENT	GROUP AND CLASS INSTRUCTION
Time on Class Management	Adult to Group, Total
Time on Assignments	Adult to Class, Total
All Interactions, Assignment	Group Instruction (Subject)
Class Management Interactions	Class Instruction (Subject)
Teacher-Controlled Interactions	
Student Remarks, Assignment	

Data Analysis

For the two objectives, a paired t-test analysis of statistical significance was used to estimate the strength and direction of teacher change on the thirty-one variables. Since correlational evidence was clear that teachers should either increase or reduce their behavior for each of these variables, a one-tail probability test was used. Thus, for objective one, the average change in the recommended direction across all teachers was assessed on all variables.

The second objective examined the performance of teachers with the greatest need for improvement on each variable. A cut-off point of more than 0.5 standard deviations away from SRI's recommended level for each variable was used to identify these teachers. For example, if research recommended that a teacher be above the mean in performance on a specific variable, all teachers who were 0.5 standard deviations or more below the mean were identified as having the greatest need for improvement on that variable. In this way, cut-off points were selected to eliminate with confidence those adequately performing on the variable. (A sample profile for the Snapshot and Five Minute Interaction variables is included in Appendix A. Also in this appendix is an example of the way changes after training are represented using the profile. Finally, in the appendix is included a profile assessment sheet.)

Results and Interpretations

In broad terms, two general findings for each objective resulted from this analysis.

Objective A. To determine the degree of improvement in selected teacher practices after training.

Finding A.1. As a total group, sample teachers improved in the recommended direction on 25 of 31 variables related to five educational priorities.

Finding A.2. For the total group, the degree of teacher improvement was estimated to be statistically significant in the recommended direction on 9 of 31 variables. These improvements represent a general increase in interactive on-task learning activities and a decrease in off-task social interaction among students.

Objective B. To investigate the post-training performance of the teachers who showed the greatest need for improvement on the selected variables.

Finding B.1. Teachers with the greatest need showed an average improvement in the recommended direction on 28 of 28 variables (on three variables, there were two or fewer teachers who were beyond the cut-off point).

Finding B.2. Among teachers with the greatest need, statistically significant improvement was shown on 18 of 28 variables. In addition to the improvements shown across all teachers, these changes included improved classroom management, increased corrective feedback, and increased use of quizzes and practice drill.

These general findings are supported through examination of Table 2, and are now discussed in turn. Table 3 presents these findings in summary form.

Finding A.1. Improvement in the Recommended Direction on 25 of 31 Variables

In general, the average teacher performance improved slightly for all teachers on twenty-five of thirty-one variables. Variables showing significant improvement are discussed in the next finding.

We were pleased to see a consistent trend toward overall improvement after training. However, in our opinion, the slight average increase reflected the degree of demand that teachers placed upon themselves for variables they perceived as being at personally satisfactory levels. In the first workshops, the expectation voiced by the workshop leader was that teachers would select their own priorities for improvement. The role of the leader was to support

TABLE 2

Paired T-Test Results

CORRECTIVE FEEDBACK		Group 1 All Teachers					Group 2 Teachers with Greatest Need				
#	Variable	N	Mean Pre	Mean Post	T-Value	One Tail Probability	N	Mean Pre	Mean Post	T-Value	One Tail Probability
F6	Acknowledgement	25	15.8	16.78	0.67	.256	20	12.08	14.05	1.33	.100
F7	Praise and Support	25	17.59	18.89	0.85	.202	19	12.54	15.98	2.24	.019*
F8	Probing Questions	25	3.97	4.59	0.60	.277	18	1.89	4.09	1.92	.035*
F9	Providing Hints	25	1.68	1.63	-0.15	-.420	22	0.98	1.33	1.10	.143
F10	All Corrective Feedback	25	14.76	15.41	0.30	.385	17	8.51	11.67	3.02	.004**
FF7	Positive Feedback	25	0.27	5.01	5.05	.000**	25	0.27	5.01	5.05	.000**
FF10	Student Doesn't Know, Adult Probes	25	0.03	0.57	2.79	.005**	25	0.03	0.57	2.79	.005**
INSTRUCTION											
FF1	Student Reading Aloud	25	7.51	12.96	1.79	.043*	24	5.96	12.01	1.95	.032*
FS2	Time Reading Aloud	24	4.11	4.13	0.01	.496	20	1.65	4.68	1.45	.081
FS3	Time on Instruction	25	17.75	24.09	1.63	.058	19	16.53	20.04	1.97	.032*
FF2	Instruction, Subject	25	50.56	57.26	1.13	.135	2	40.78	47.65	0.99	.167
F11	All Interactions, Subject	25	235.59	253.17	2.17	.020*	12	200.47	244.14	4.31	.001**
S3	Written Assignments	25	28.83	28.10	0.19	.427	17	38.09	34.35	0.70	.250
FS5	Practive Drill	25	3.64	3.41	0.12	.452	19	0.00	2.58	99.00	.000**
FS6	Test-Taking	25	2.85	4.11	0.72	.238	19	0.00	3.07	99.00	.000**

* $p < .05$ ** $p < .01$

TABLE 2 - CONT'D

#	Variable	Group 1 All Teachers N	Mean Pre	Mean Post	T-Value	One Tail Probability	Group 2 - Teachers with Greatest Need N	Mean Pre	Mean Post	T-Value	One Tail Probability
DISCIPLINE											
S4	Time on Social Interaction	25	8.57	4.84	2.24	.018*	20	10.71	5.57	2.64	.008**
S5	Students Uninvolved	25	8.95	7.90	0.78	.221	22	9.95	8.36	1.12	.137
F12	All Interactions, Behavior	25	19.31	15.32	0.95	.175	17	26.96	19.04	1.36	.097
F13	Negative Interactions	25	1.73	2.55	-0.98	-.170	8	4.67	4.12	0.40	.350
FF5	Social Comments	25	0.42	5.05	-4.01	-.001**	1	1.66	1.00	0.00	1.000
FF6	Teacher Monitoring Movement	25	1.33	15.49	6.91	.000**	25	1.33	15.49	6.91	.000**
CLASS MANAGEMENT											
S1	Time on Class Management	25	9.07	9.33	0.19	.430	10	20.67	10.00	3.75	.003**
S2	Time on Assignments	25	4.42	5.56	-0.81	-.220	12	9.20	5.10	2.43	.017*
F14	All Interactions, Assignments	25	55.29	52.53	0.36	.362	16	72.96	57.27	1.47	.080
F15	Class Management Interactions	25	18.40	15.76	0.59	.280	7	47.71	24.09	1.93	.050*
F16	Teacher-Controlled Interactions	25	34.65	36.53	0.68	.250	15	23.36	31.64	2.86	.007**
FF9	Student Remarks, Assignment	25	0.98	9.26	-7.25	.000**	0	0.00	0.00	0.00	1.000
GROUP AND CLASS INSTRUCTION											
F2	Adult to Group	25	15.16	17.00	0.96	.174	19	5.54	8.07	1.27	.110
F3	Adult to Class	25	51.01	49.33	-0.27	-.395	15	26.78	35.18	1.28	.110
FF3	Group Instruction, (Subject)	25	0.41	5.96	3.11	.003**	25	0.41	5.96	3.11	.003**
FF4	Class Instruction, (Subject)	25	2.94	32.49	4.79	.000**	25	2.94	32.49	4.79	.000**

* $p < .05$

** $p < .01$

TABLE 3

SRI Effective Teaching Practices Inservice Training

Summary of Teacher Improvement

Educational Priority and Variables	Group 1. All Teachers		Group 2. Teachers in Need	
	Direction	Significance	Direction	Significance
CORRECTIVE FEEDBACK				
Acknowledgement of Correct Answers	+		+	
Praise and Support of Student Responses	+		+	*
Probing Questions	+		+	*
Providing Hints	-		+	
All Corrective Feedback	+		+	**
Positive Feedback	+	**	+	**
Student Doesn't Know, Adult Probes	+	**	+	**
INSTRUCTION				
Student Reading Aloud	+	*	+	*
Time Reading Aloud	+		+	
Time on Instruction	+		+	*
Instruction, Subject	+		NA	NA
All Interactions, Subject	+	*	+	**
Written Assignments	+		+	
Practice Drill	+		+	**
Test-Taking	+		+	**
DISCIPLINE				
Time on Social Interaction	+	*	+	**
Students Uninvolved	+		+	
All Interactions, Behavior	+		+	
Negative Interactions	-		+	
Social Comments	-	**	NA	NA
Teacher Monitoring Movement	+	**	+	**
CLASSROOM MANAGEMENT				
Time on Classroom Management	+		+	**
Time on Assignments	-		+	*
All Interactions, Assignments	+		+	
Classroom Managements, Interactions	+		+	*
Teacher-Controlled Interactions	+		+	**
Student Remarks	-	**	NA	NA
GROUP and CLASS INSTRUCTION				
Adult to Group, Total Interactions	+		+	
Adult to Total Class, Total Interactions	-		+	
Group Instruction	+	**	+	**
Total Class Instruction	+	**	+	**

KEY

\+ = mean improvement in recommended direction
\- = mean group change opposite recommended direction

* = $p < .05$
** = $p < .01$

NA = not applicable, $n \leq 1$

them on these issues. Our experience has led us to recommend a higher level of demand on the part of the workshop leader. We coined the maxim, "It's not OK to be OK" as a rejoinder to the teachers who argued that their performance was in an acceptable range on the Stallings' profile. We recommend that workshop leaders set high expectations ("It's only OK to be Good!") and consistently probe to encourage teachers to demand the most for themselves. To this end, we developed a profile assessment sheet (see Appendix A) that is given to teachers after they have reviewed their own profiles in light of research recommendations. Typically, when the workshop leader communicates his recommendations to each teacher, an intensified level of discussion results concerning the priorities each teacher has set.

The six specific variables showing failure to improve across all teachers were:

F9	Providing Hints	The average number of hints provided by teachers when students did not have the answers remained stable, instead of increasing.
F13	Negative Interactions	The average number of sarcastic or demeaning remarks by teachers or students increased slightly, instead of decreasing.
FF5	Social Comments	The average number of social comments exchanged between teachers and students increased, instead of decreasing. (N.B. The initial number of comments was very low, less than 1.)
S2	Time on Assignments	The average percent of students involved in preparing for their assignments increased slightly, instead of decreasing. (N.B. Even with this increase, the Cincinnati average remained in the recommended range.)

FF9	Student Remarks, Assignment	The average number of student comments about the assignment increased significantly from a low initial point, instead of decreasing.
F3	Adult to Class, Total	The average number of interactions between the teacher and the total class decreased slightly, instead of increasing.

Finding A.2. Statistically Significant Improvement on 9 of 31 Variables

On nine variables, statistically significant improvement was noted across all teachers. In general, these improvements can be summarized in two categories: an increase in on-task interactive learning activities and a decrease in off-task social interactions among students during class time.

Most importantly, the number of verbal interactions between teachers and students (F11) increased significantly ($p < .01$). This finding means that teachers and students spent more time interacting on recommended instructional tasks. It is corroborated by the near significance ($p<.058$) of the increase in Variable FS3, Time on Instruction. Another key part of this increase was the significant increase ($p<.04$) in Reading Aloud (FS2). In addition, the number of instructional interactions with groups (FF3) or the total class (FF4) also increased significantly ($p<.01$), albeit from rather low initial means. Further, adults gave significantly ($p < .001$) more positive feedback to students (FF7) and increased slightly but significantly ($p < .01$) their tendency to continue to interact with students giving the wrong answer.

An increase in interactive on-task activities (between teachers and students) has been established as an important alterable variable in recent work (Stallings, 1980). Interactive on-task activities, particularly with groups or the total class, provide teachers with more data about their students' current knowledge, and more opportunities to correct learning errors before they are reinforced. In addition, students tend to stay engaged in their tasks for longer periods of time in classrooms where highly interactive instruction occurs. These are possible reasons why increased time spent in interactive on-task activities is highly correlated with achievement gain.

Another contributing factor to this observed increase in time on task was the significant decrease ($p < .02$) in time spent by students in off-task social interaction with each other. After teacher training, the average percent of students engaged in this kind of interaction was nearly half its level before training. One possible contributing factor to this decrease in Social Interaction was the significant increase ($p < .001$) in Teacher Monitoring Movement about the room (FF6). Again, we suspect the reduction in off-task social interaction can be related to the vulnerability teachers felt on this issue, leading them to emphasize its improvement. Since it is widely accepted that students talking during class is not productive, and since teachers knew this variable could be easily observed, there was strong incentive to apply the methods learned in the workshop to reduce this variable.

In sum, increased interactive learning and decreased off-task social interaction were the most observable outcomes after training.

Finding B.1. On the Average, Teachers with the Greatest Need Showed Improvement Across all Selected Variables

Of the twenty-five teachers in Group 1, an average of eighteen teachers could be classified as in great need on the twenty-eight selected variables. This means that (on the average) two-thirds of the sample teachers were clearly not correctly implementing each observable variable. This was the group defined as having the greatest need. Across all twenty-eight variables, the average change after training was in the recommended direction.

There are several possible reasons why this training worked more consistently with urban teachers who were demonstrating the greatest need for improvement, according to this research framework. The first possible reason had to do with teacher motivation. Once a trust level was established, teachers whose classes were not going as well as they would have liked had a higher interest in learning promising approaches, especially those proven in classes similar to their own. The motivation source tapped by the workshops was the teacher's desire to do better. Second, not only were the training variables easily observable and practically defined, they were linked by a point of view about the urgency and importance of the teacher's behavior, that went beyond the specific recommended behaviors. We suspect it is this point of view and its accessibility that draws teachers, and motivates change. For improved teaching is more than a matter of improved technique; in part it is a question of re-setting personal standards for one's own work.

Further, the recommendations presented to teachers were perceived to be research-based, as opposed to authority-based (coming from a principal or supervisor during an appraisal process). Although teachers were encouraged to challenge the research and the recommendations, an express purpose of the training was to get teachers to reconsider the assumptions that underlie their habitual teaching behaviors. This could be done best initially through dialogue with the leader and other teachers about a somewhat objectified topic--research recommendations related to a teaching profile. Conducted in a group problem-solving mode, the workshops also encouraged teachers to define and solve their own problems, using group recommendations and group reinforcement as stimuli for action. In short, the greater need of these teachers, the clarity of the variables discussed, the power of the point of view, and the internal organization of the training may account for the relative success of Group 2 teachers.

Finding B.2. Teachers with the Greatest Need Showed Statistically Significant Improvement on 18 of 28 Variables

Teachers with the greatest need for improvement during preliminary observation showed statistically significant improvement on the same variables cited in Finding A.2. However, their growth extended to additional variables in three main areas.

First, teachers having the greatest initial difficulty improved their classroom management skills. The average percent of time teachers were recorded doing classroom management tasks without students during classtime (S1) was cut in half after training. Similarly, the percent of students recorded in the process of getting organized to learn (S2) and the average number of verbal interactions related to classroom management (F15) were

also reduced by half. In addition, the number of teacher controlled interactions (F16) increased significantly ($p < .01$). Improvement on these variables indicated that teachers learned to design lesson plans and organize classroom time more effectively. In a sense, these teachers took a more active leadership stance and were more successful at getting students swiftly on to task.

Second, Group II teachers developed skills at providing positive corrective feedback to students. For example, the way that a teacher responds to a student who does not know the answer to a question is one gauge of that teacher's sophistication as a basic skills instructor. Group II teachers increased significantly ($p < .02$) the number of supportive comments to students (F7). They asked more probing questions (F8) and increased significantly ($p < .01$) the total amount of corrective feedback provided (F10). In short, teachers created a more supportive learning environment in which incorrect answers could be hazarded with an increased likelihood of receiving helpful teacher responses.

Third, teachers increased the number of quizzes and the amount of practice drill activities in their classes. These recommended activities helped low-skilled students learn quickly how they were progressing in basic skills subjects. They also increased the teacher's awareness of student strengths and weaknesses as a guide for further instruction. In sum, the teachers with the greatest need in urban classrooms reduced the time spent in their classes on classroom management, increased the positive corrective feedback provided to students, and increased the number of quizzes and practice drills. In these ways, after training they moved

closer to the profile of an effective basic skills instructor that is being sketched by recent research.

Recommendations for Further Research

The present study presents evidence suggesting that urban teachers can be trained to improve specific teaching practices correlated with achievement using the Stallings Effective Teaching Practice training program. While hardly conclusive, these results are promising in two ways: they are consistent with previous results related to this training program; and they indicate that a second generation of workshop leaders can be trained to produce similar outcomes. These are grounds for continued dissemination of the training program.

As this approach is extended, additional information in five key areas will be needed.

1. Micro-Analysis of Recommended Variables

The analysis of teacher behaviors in effective basic skills classrooms should proceed to investigate the effects of specific instructional strategies on achievement. For example, if the amount of instructional time devoted to reading aloud is strongly correlated with reading gains by low and medium skilled students at the secondary level, which among the many common ways of organizing the reading aloud activity are more productive than others? To divide up and read the spoken parts of a play may be useful under some circumstances, but perhaps not in a basic skills class.* Choral reading and radio reading are instructional strategies used more often with the poorer readers. Can a selection among these strategies be

* Of course, there are also a range of ways of reading parts of a play aloud.

supported by research? As the example indicates, many of the generally recommended instructional activities need to be re-defined and re-investigated at the level of specific instructional strategies, if we are to clarify with greater precision the recommendations made to basic skills teachers.

2. Calibration of the Recommendations to Various Student Samples

To date, recommended practices have been found to vary by skill level of students. (In other words, recommended variables should be implemented with greater or lesser frequency depending upon the cognitive entry skills of students.) Students differ in many other ways; further research with specific target populations may surface recommendations specific to Black adolescent males, to Hispanics, to adult learners, etc. Of course, it is difficult to generalize across most members of any group, but it is also likely that even qualified categories like "low-skilled secondary reading students" can be usefully sub-divided. Findings specific to different sub-groups would provide data to answer a major need (identified by Cincinnati teachers) for teaching approaches to use in cross-cultural settings (i.e., White teacher/Black class). For the statistically-derived teacher profile (that estimates teacher behavior to three decimal places!) should not lead to the mistaken impression that effective teaching is more a question of neutral technique than it is of human relations and communication. For teachers experiencing cross-cultural difficulties, improved techniques may be but part of the improvement required. As research gradually reveals approaches effective with different student groups,

these findings can be usefully added to the training content for urban teachers.*

3. Simplification of the Observation System

Since the observation system and the profile it produces are at the heart of a successful training program, they should not be tampered with lightly. But, in Cincinnati, it costs $45/teacher for two sets of profiles (not including six hours of donated labor per teacher, plus travel and editing time for observers). It also takes five to seven full working days to train five to seven observers; and we do not have the specialized capability to scan and score the observation booklets locally. The procedures we follow to have the profiles generated externally are quite manageable and of justifiable expense. But to meaningfully expand the training program to the point that it could become a feature of the ongoing development of a sub-set of schools requires creating a local capability to produce profiles at reduced cost. This could be accomplished if scaled down versions of the observation instruments could be developed that reliably and validly collected the most important information teachers use off the profile. For example, using the existing instruments as the criterion, it would be useful to examine the reliability and validity of several optional versions of the instruments: 1) more frequent use of the Snapshot alone; 2) an instrument created by reducing the number of interaction variables and coding categories;** 3) a self-assessment questionnaire set up on microcomputer that would produce various profiles and recommendations depending on teacher responses to a series of diagnostic questions; 4) use of the

* As an additional direction for research with different student and teacher samples, it would be useful to have teacher norms that vary by level (primary to senior high) and by subject (reading, mathematics, etc.).
** For example, eliminate "who and to whom;" do not distinguish so finely between types of questions and responses.

existing instruments for one or two classes per teacher, instead of three. Minor modifications of the instruments could well lead to a re-design of the observation booklets and scoring programs, so booklets could be scanned on a wider variety of scanners and results scored with a program easily convertible to many computer systems. The investment of time in this type of methodological inquiry would pay dividends for improved portability of the training program.

4. Long-Term Follow-Up of Teachers and Their Students

Habitual patterns of teaching behavior have a way of re-asserting themselves after the short-term effects of training wear off. Periodic refresher sessions, or, better, ongoing problem-solving groups can reinforce the new behaviors until they are well-established. Ideally, in a school, semi-annual observations and conferences (after completion of the initial training) could help keep teachers sharp. Further, studies of the long-term results of the training, in terms of both changed teacher behavior and accelerated student gains, would be even more convincing evidence for this program.

5. Development of Specialized Workshop Sequences for Teachers With Various Needs

Around a workshop core including introduction to the research and interpretation of the profile could be spun many workshop sequences geared to varying teacher needs. Perhaps the core training could be shortened to two sessions, then branch routes could be pursued--by subject-specific groups, by teachers needing to regain command of their classes, by first-year teachers, by a school staff focusing on basic skills, by alternative school teachers, by teachers of gifted or exceptional classes, etc. To confront a

possible abuse of the training model, a variant training sequence could be developed for use with teachers on appraisal for less than satisfactory performance. Assistance could be provided by a neutral third party outside of the tension-filled appraiser-appraisee relationship. Development of these varying sequences would dramatically diversify the applications of this program.

Conclusion

"Successful" inservice training models are not disseminated automatically or easily, and their effectiveness in new sites often falls short of their performance in the original sites (Berman and McLaughlin, 1978). This study is important because it assesses the way one promising inservice training program was implemented with teachers requesting assistance in inner-city schools. Preliminary findings from the first year of implementation suggest that the Stallings Effective Teaching Practices training program helped teachers having difficulty to improve their performance on key variables related to accelerated student achievement. If the program continues to prove successful, the next level of analysis will be to determine which components of the training process actually motivate inner-city teachers to reconsider and alter their teaching practices. We suspect that teachers with the greatest difficulties need conditions where they are encouraged to set more precise and demanding standards for their work, and then given the support and technical assistance necessary to try out specific new behaviors.

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Appendix A

Sample Teacher Profiles

Example of Teacher Improvement

Profile Assessment Form

BASIC SKILLS TEACHER PROFILE
SNAPSHOT

% STUDENTS INVOLVED

TEACHER NAME:
TEACHER NUMBER:
HIGH SCHOOL
UNION HIGH SCHOOL DISTRICT

VARIABLES		STANDARD DEVIATIONS FROM THE MEAN		ALL CLASSES	YOUR CLASS
		LESS FREQ.	MORE FREQ.		
		< 2111111111 1000000000 0 0000000001 1111111112 >			
		< .... >			
		< 0987654321 0987654321 0 1234567890 1234567890 >			
S2	TEACHER CLASS MANAGE/NO STUDENTS: PROPORTION OF TIME		X	15.966	46.666
S3	TOTAL SILENT READING	X		08.611	02.845
S4	TOTAL READING ALOUD	X		09.204	00.000
S5	TOTAL MAKING ASSIGNMENTS	X		06.643	00.000
S6	TOTAL INSTRUCTION	X		19.792	02.439
S7	TOTAL DISCUSSION	X		02.642	02.032
S8	TOTAL PRACTICE DRILL	X		01.736	00.000
S9	TOTAL WRITTEN ASSIGNMENTS		X	27.193	59.756
S10	TOTAL TEST TAKING	X		02.379	00.000
S11	TOTAL NON-MATH OR READING INSTRUCTION	X		00.426	00.000
S12	TOTAL SOCIAL INTERACTION		X	04.316	06.504
S13	TOTAL STUDENT UNINVOLVED		X	05.893	08.130
S14	TOTAL DISCIPLINE	X		00.308	00.000
S15	TOTAL CLASSROOM MANAGEMENT	X		05.949	04.878

TEACHER ACTIVITY BY GROUP - COUNTS FOR YOUR CLASS

I SINGLE	S SMALL	L LARGE	S+L SMALL+LARGE	E EVERYONE
10	0	0	0	0

32

31

BASIC SKILLS TEACHER PROFILE
FIVE MINUTE INTERACTION

TEACHER NAME:
TEACHER NUMBER:
HIGH SCHOOL
UNION HIGH SCHOOL DISTRICT

AVG FREQ PER DAY

VARIABLES		STANDARD DEVIATIONS FROM THE MEAN -------LESS FREQ.-------MORE FREQ. < 2111111111 1000000000 0 0000000001 1111111112 > < .... > < 0987654321 0987654321 0 1234567890 1234567890 >	ALL CLASSES	YOUR CLASS
F5	ADULT TO IND. STUDENT	X	89.122	144.666
F6	ADULT TO GROUPS	X	15.387	00.000
F7	ADULT TO CLASS	X	44.298	02.333
F8	STUDENT DIRECT QUESTION,READING	X	13.211	12.666
F17	ADULT DIRECT QUESTION,READING	X	41.211	32.333
F25	STUDENT RESPONSE,READING	X	42.746	24.000
F41	STUDENT READING ALOUD	X	27.613	14.666
F45	ADULT INSTRUCTING READING	X	63.430	97.333
F48	ADULT INSTRUCTING GROUPS/READING	X	07.667	00.000
F49	ADULT INSTRUCTING EVERYONE/READING	X	33.219	00.666
F50	MACHINE INSTRUCTING	X	07.596	00.000
F56	ALL SOCIAL COMMENTS	X	02.483	00.666
F61	ADULT ACKNOWLEDGEMENT/READING	X	16.851	15.000
F71	ADULT PRAISE/SUPPORT	X	19.360	15.666
F73	ADULT CORRECTIVE FEEDBACK/PROBING	X	02.982	06.000
F75	ADULT FEEDBACK/GUIDANCE	X	02.990	00.666
F76	ADULT CORRECTIVE FEEDBACK	X	13.868	50.333
F91	ALL ADULT MOVEMENT	X	17.386	11.666
F94	ALL INTERACTIONS/READING	X	208.559	287.000
F95	ALL INTERACTIONS/TASK	X	01.588	00.000
F96	ALL INTERACTIONS/BEHAVIOR	X	06.202	02.000
F99	ALL INTERACTIONS/POSITIVE	X	04.263	03.333
F102	ALL INTERACTIONS/NEGATIVE	X	00.351	00.000
F105	ADULT OFFERS CHOICE,ACTIVITY	X	00.227	00.000
F106	STUDENT COMMENTS, ASSIGNMENT	X	09.930	18.666
F110	STUDENT DON'T KNOW,ADULT PROBES	X	00.272	01.333
F120	ALL INTERACTIONS/CLASS ASSIGNMENT	X	69.728	121.000
F122	ADULT MANAGE CLASS,NO STUDENT	X	33.806	27.666
F135	ADULT WITH OUTSIDE INTRUDER	X	01.625	03.666
F136	ADULT/DIFFERENT STUDENT STARTS INTERACTION	X	26.675	28.666
F137	DIFFERENT STUDENT/ADULT STARTS INTERACTION	X	24.525	05.666

30

TEACHER NAME: SAM JONES

LAKEWOOD HIGH SCHOOL

WASHINGTON UNIFIED SCHOOL DISTRICT

STANDARD DEVIATIONS FROM THE MEAN

Mean for All Classes

Less Frequent ←—— ——→ More Frequent

Snapshot Variables	Recommendation	< 2 S.D.	1 S.D.	0	1 S.D.	2 S.D. >	All Classes	Sam's Class Pre	Sam's Class Post	Implementation
Teacher class manage/no students	Less			0 ←		X	28.	46.	07.	/
Total silent reading	Less			0 ←	X		08.	09.	05.	/
Total reading aloud	More			X	→	0	09.	06.	29.	/
Total making assignments	OK		0 ←	X			06.	04.	00.	/
Total instruction	More			0←X			10.	18.	13.	
Total discussion	More				X →	0	02.	04.	18.	/
Total practice drill	More			X0			01.	00.	00.	
Total written assignments	OK			X-0			27.	17.	21.	/
Total test taking	More			X0			02.	00.	00.	
Total social interaction	Less				0 ←	X	04.	15.	07.	/
Total student uninvolved	Less		0 ←			X	05.	15.	01.	/
Total discipline	OK			X0			00.3	00.	00.	/
Interaction Variables										
Teacher to individual student	More	X	→	0			89.	48.	113.	
Teacher to groups	More		X →	0			13.	01.	38.	/
Teacher to class	OK			0 ←		X	44.	137	37.	
Teacher direct question, reading	More		X →	0			41.	23.	50.	/
Student response, reading	More	X	→	0			42.	19.	43.	/
Teacher praise, support, reading	More	X	→	0			13.	08.	34.	/
Teacher corrective feedback	More			X →		0	13.	19.	53.	/
All interactions/reading	More			X →	0		208.	230.	304.	/
All interactions/behavior	OK		X →	0			06.	01.	11.	/
All interactions/positive	More		X →	0			04.	08.	04.	
All interactions/negative	OK			X0			00.	00.	00.	/
Student comments, assignment	OK		X-0				09.	01.	33.	/
All interactions/class assignment	Less		0 ←			X	69.	144.	17.	/
Teacher manage class, no student	Less			0 ←		X	33.	73.	05.	/

X = Pre-Training Observation
0 = Post-Training Observation
—→ = Direction of change
/ = Correctly Implemented

PROFILE OF SAM JONES' PRE- AND POST-TRAINING OBSERVATIONS

Teacher _____ School _____ Date _____

TEACHER PROFILE ASSESSMENT

This profile assessment is prepared as a service to the teacher. It identifies priority recommendations, from the outside perspective of the workshop leader. Teachers should consider these recommendations when making their own decisions about targets for improvement in their classrooms.

Educational Priority	Variable Number and Name[1]	Recommend Doing It[2]	Observed Level Pre	Norm	Post	Improvement Target	Correctly Implemented
Recommended Instructional Activities	S4 Time Reading Aloud			09			
	F43 Student Reading Aloud			28			
	S6 Time on Instruction			20			
	F45 Instruction, Subject			63			
	F94 Interactions, Subject			209			
	S3 Silent Reading			09			
	S7 Total Discussion			03			
	S8 Practice Drill			02			
	S9 Written Assignments			27			
	S10 Test Taking			02			
Classroom Management	S2 Management, No Students			16			
	S15 Total Time, Management			06			
	F122 Management Interactions			34			
	S5 Making Assignments			07			
	F120 Interactions, Assignment			70			
	F108 Student Comments			10			
	F137 Student Starts Intractn.			25			
Behavior Management	S12 Social Interaction			04			
	F56 Social Comments			02			
	S13 Students Uninvolved			06			
	F91 Teacher Movement			17			
	F96 Behavior Interactions			06			
	F102 Negative Interactions			01			
Corrective Feedback	F61 Acknowledgment			17			
	F71 Praise and Support			19			
	F73 Probing Questions			03			
	F75 Providing Hints			03			
	F76 All Feedback			14			
	F99 Positive Interactions			04			
	F136 Adult/Diff. Student			27			
	F17 Adult Direct Question			41			
Individual/ Group/ Class	F5 Adult to Ind. Student			89			
	F6 Adult to Group			13			
	F48 Group Instruction			08			
	F7 Adult to Class			44			
	F49 Total Class Instruction			33			

[1] Variables numbered "S" reported in % of observed time; those numbered "F" reported in terms of frequency of occurence per class period.

[2] Priority variables from leader's perspective marked with *.